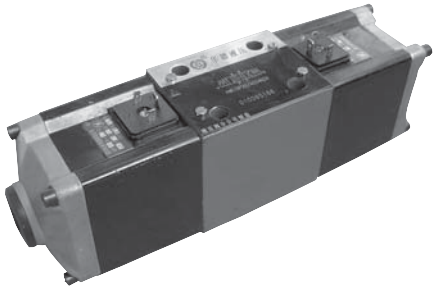
HUADE AMÉRICA

Catálogo de Produtos

BEIJING HUADE HYDRAULICS INDUSTRIAL GROUP CO.,LTD.	Directional control valves Type WE 10...20B/			RE 23314/12.2004
	Size 10	up to 31.5 MPa	up to 100L/min	Replaces: RE 23314/05.2001

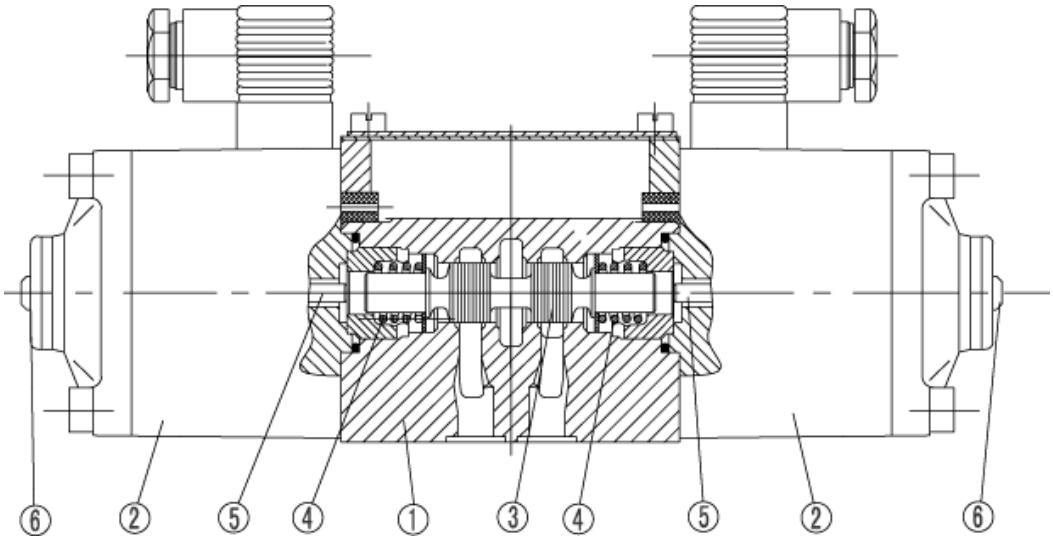
Features:

- Direct solenoid operated directional spool valve as standard version
- 53 kinds spool function
- Porting pattern to Din 24 340 form A, ISO 4401 and CETOP-RP 121H



Functional,section

Directional valves of type WE are solenoid operated directional spool valves. They control the start, stop and direction of a fluid flow.
These directional valves basically consist of the housing (1), one or two solenoids (2), the control spool (3), and one or two return springs (4).
In the de-energized condition, the control spool (3) is held by the return springs (4) in the central or in the initial position (except for detented spools). The control spool (3) is actuated via wet pin solenoids(2).
The force of the solenoid (2) acts via the plunger (5) on the control spool (3) and shifts the same from its rest position to the desired end position. Thus, the required flow pattern from P to A and B to T or P to B and A to T is selected.
When the solenoid (2) is de-energized, the control spool (3) is returned to its neutral position by the return spring (4).
A manual override (6), optional, is provided for emergency operation of the control spool (3) without energization of the solenoid.



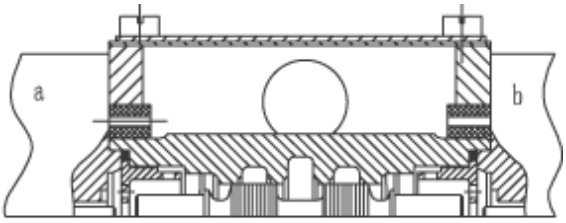
Type WE10…20B/A…

A

Type WE 10 C 20B/OA：

D

This version is a directional valve with 2 switching positions and 2 solenoids without detent. and spring return There is no defined switching position in the de-energized condition.



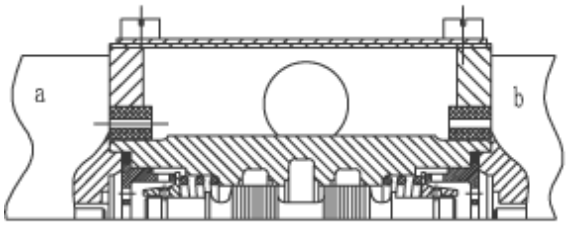
Type WE10...20B/OA

A

Type WE 10 C 20B/O FA：

D

This version is a directional valve with 2 switching position, 2 solenoids and a detent without spring return. Thus, the relevant switching positions are fixed and continuous energization of the solenoid is not necessary.



Type WE10...20B/OFA

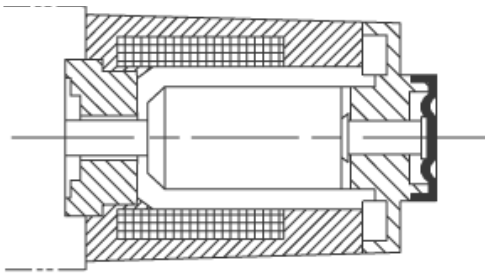
Throttle inserts

The use of throttle inserts is only required, if, due to the operating conditions, flows are to be expeced, which are higher than the stated maximum performance limits of the valve.
It is inserted in the P channel of the directional valve.

cartridge throttle

Solenoid

Wet pin solenoid life is much longer because gag bit moves in the oil ,just lessening hydraulic impact and abrasion ,i mproving the speed of emanating heat.



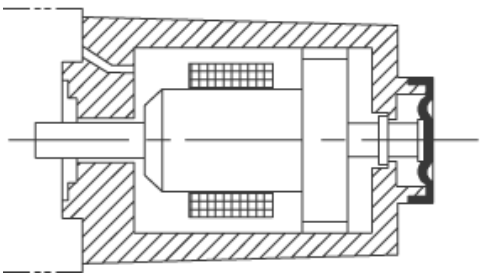
The characteristics of DC solenoids：

—— Switching gently ,high frequency。

—— Coils are all safety wherever gag bit stays at any position of the solenoid .

—— Its response is not rapid for lower voltage ,go beyond voltage instantly,over loading or jamming of mechanism .

AC power supply can be used through commuting.



The characteristic of AC solenoids：

—— The circuitry of electrical control is easy.

—— Action time is short.

—— It is not necessary of special protect device for on-off.

Ordering code

	WE	10		20	B	/			A					*

3 Service ports = 3
4 Service ports = 4

Nominal size 10 =10

Further details in clear text

No code = mineral oils
V = phospate ester

No code = Without cartridge throttle
B08 = Throttle, Φ 0.8 mm
B10 = Throttle, Φ 1.0 mm
B12= Throttle, Φ 1.2 mm

Electrical connection see back

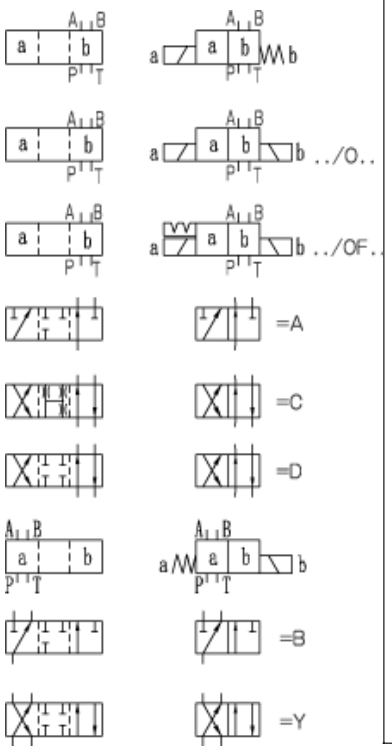
N= With manual override
No code= Without manual override

W220-50= 220 V AC 50 Hz
G24= 24 V DC
W220R = AC 110V 220V
W110R = AC solenoid with plug Z5

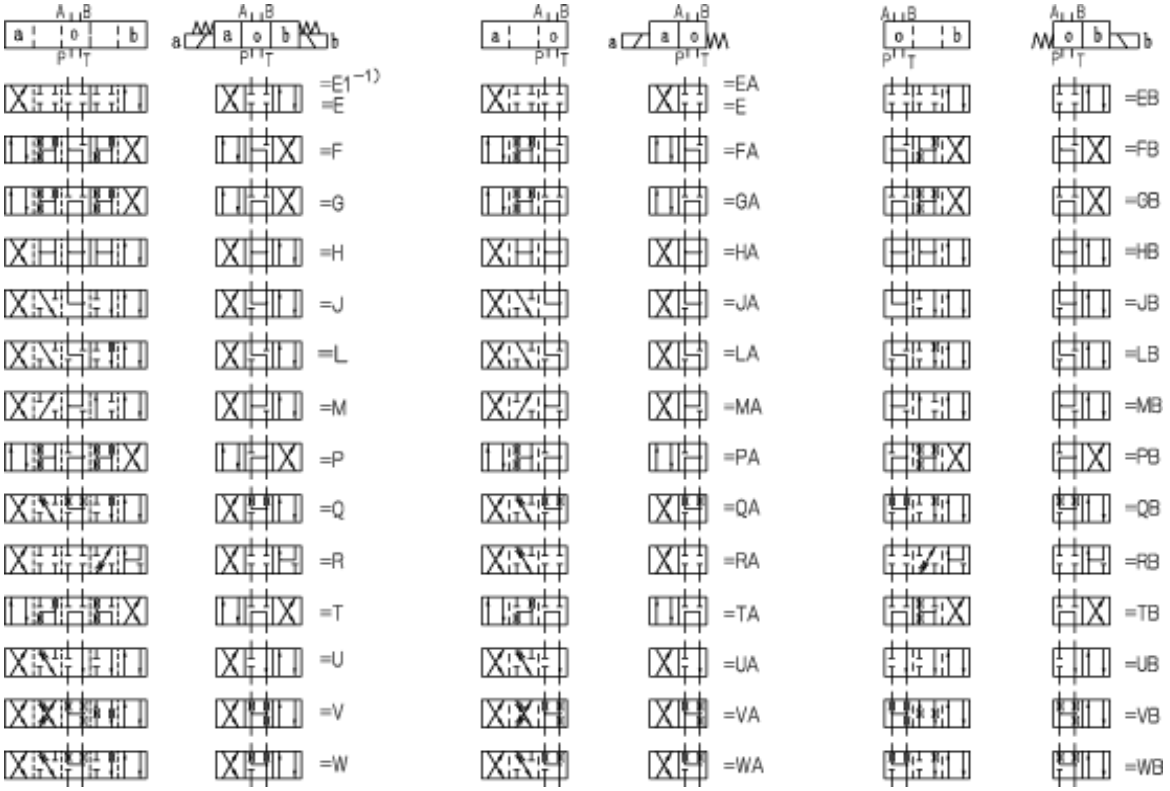
No code= With spring return
OF= Without spring return, with detent
O= Without spring return

B = Technology of Beijing Huade Hydraulic

20 = Series 20 to 29
(20 to 29: unchanged installation and connection dimensions)



1）symbolE1-: P A/B , previous port



Technical data

Hydraulic

Operating press., max.	Port A, B, P (MPa)	up to 31.5
	Port T (MPa)	up to 16
Flow, max. q_v (L/min)		up to 100
Flow area (switching position 0)		With symbol Q approx. 6 % of the nominal area With symbol W approx. 3 %
Hydraulic fluid		mineral oils，phospate ester
Fluid temperature range (℃)		-30～+80
Viscosity range (mm^2/s)		2.8～500
Weight (Kg)	Valve with 1 solenoid	4.7（DC）；4.2（AC）
	Valve with 2 solenoids	6.6（DC）；5.6（AC）

Note: With symbol A and B, port T must be used as drain port, if the operating pressure is higher than the permissible tank pressure.

Electrical

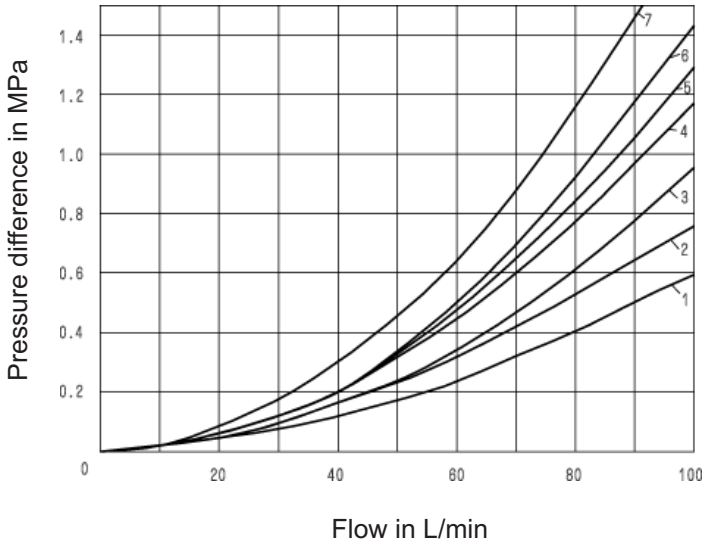
Voltage type	AC	DC
Voltages available (V)	110、220/50Hz	12、24、110
Power consumption (W)	-	35
Holding power P (VA)	65	-
Making current P (VA)	480	-
Duty cycle	Continuous	
Switching time ON (ms)	15～25	50～60
Switching time OFF (ms)	40～60	50～70
Environment temperature (℃)	+50	
Coil temperature (℃)	+150	
Switching frequency (cycles/h)	7200	15000
Insulation to DIN 40 050	IP65	

Note: When connecting the electrics, the protective conductor (PE) must be connected according to relevant regulations.

Characteristic curves (measured at ν = 41 mm² /s and t = 50 ℃)

7 Symbol "R " in switched position A → B

8 Symbols "G " and "T " in mid position P → T

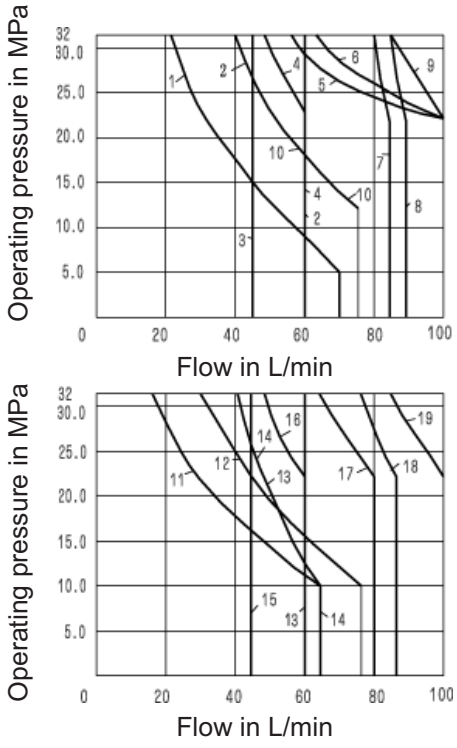


Symbol	Flow direction			
	P - A	P - B	A - T	B - T
A,B	2	2	-	-
C,D,Y,J	2	2	3	3
E,Q,V	2	2	4	4
F	2	3	3	5
G	3	3	4	6
H	1	1	4	5
L,U	2	2	3	5
M	1	1	5	5
P	3	2	5	3
R	2	4	3	-
T	3	5	5	6
W	2	2	5	5

Switching power limits (measured at ν = 41 mm² /s and t = 50 ℃)

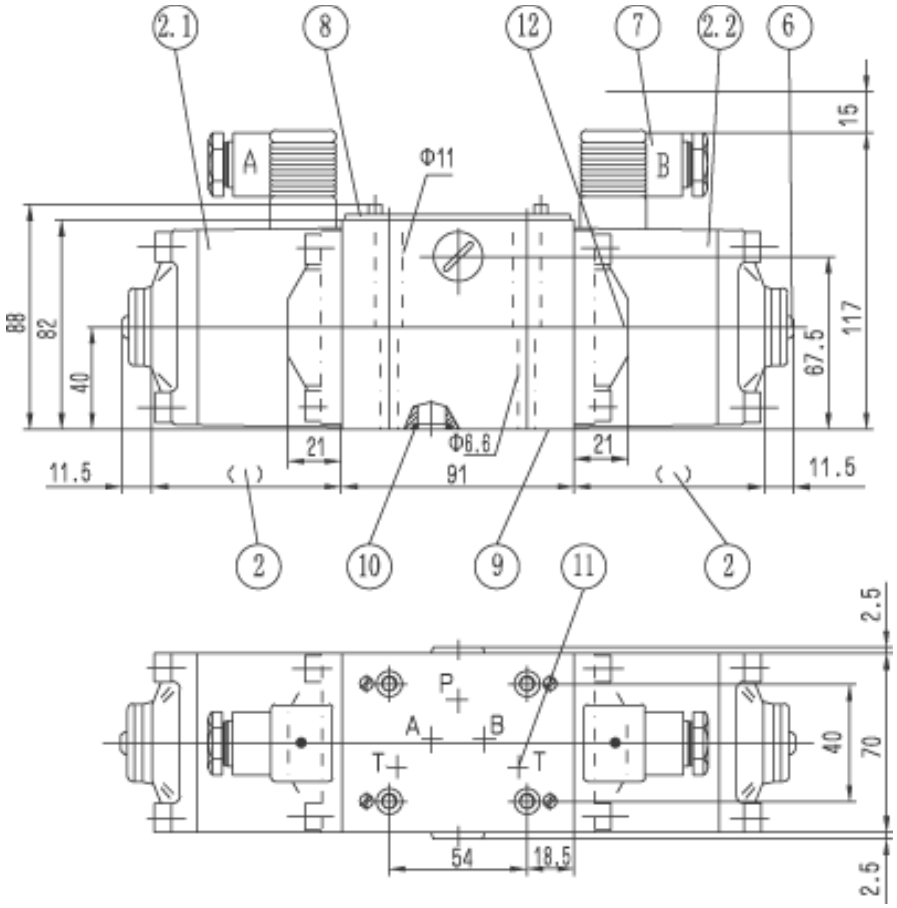
Because gluing effect influence valves switching,for attaining the biggest recomendatory value ,suggest adopting the whole flux filter of 20μm in system the hydraulic impetus also affects the flux ability of valve,so different spool valve contain different work curve.for the valve of size 4,the value is given in the condition that two passages work nomally(e.g from P to A at the same time B to T) due to the flow forces active within the valves the permissible switching power limit may be significantly less if there is only one direction of flow.

The switching power limits were measured with the solenoids at operating temperature, 10% under voltage and without tank back pressure.

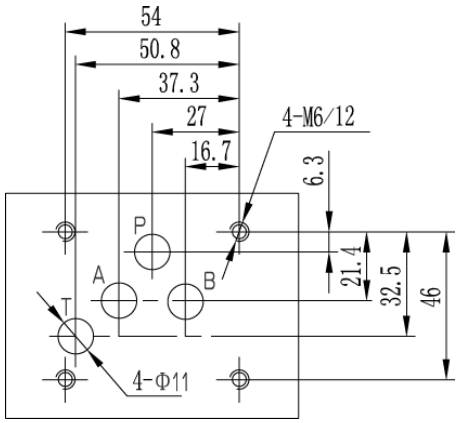


DC solenoid		AC solenoid	
Char. curve	Symbol	Char. curve	Symbol
1	A,B	11	A,B
2	F,P,T	12	H
3	V	13	F,P,T
4	G	14	A/O
5	E,L,Q,U,W	15	V
6	J	16	G
7	D,Y	17	J,L,U
8	G,R	18	C , D , Y , Q , R ,W
9	M,C/O,D/O	19	C/O,D/O,E,M
10	H,A/O		

Unit dimensions



the connection dimensions of service ports



2 DC solinoid(without manual override) 94mm
AC solinoid(without manual override) 75mm

2 .1 Solenoid "a" (colour of the plug-in connector: grey)

2 .2 Solenoid "b" (colour of the plug-in Connector: black)

6 Manual override "N"

7 Plug Z4

8 Nameplate

9 Service port

10 O-ring12x2

11 Accessional T must be used(except for ZDR10D...)if making a hole at subplate

12 Cover for valve with one solenoid

Subplates： see page206

G66/01(G3/8″) G66/02(M18 × 1.5)

G67/01(G1/2″) G67/02(M22 × 1.5)

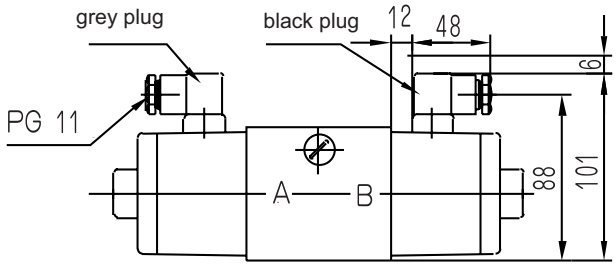
G534/01(G3/4″) G534/02(M27 × 2)

※ Valve fixing screws

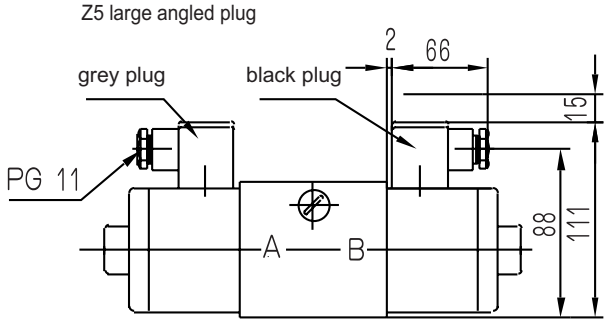
4-M6 × 50-10.9（GB/T70.1-2000）

M_A=15 N.m

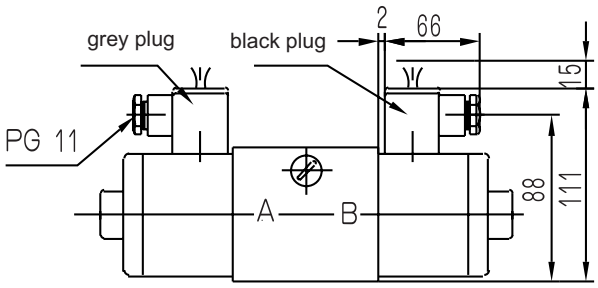
Z4 angled plug



Z5 large angled plug



Z5L Large angled plug with light



NOTICE

1. **The fluid must be filtered. Minimum filter fineness is 20 μm.**
2. **The tank must be sealing up and an air filter must be installed on air entrance.**
3. **Products without subplate when leaving factory, if need them, please ordering specially.**
4. **Valve fixing screws must be high intensity level (class 10.9). Please select and use them according to the parameter listed in the sample book.**
5. **Roughness of surface linked with the valve is required to .**
6. **Surface finish of mating piece is required to 0.01/100mm.**

ANNOTATIONS :

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